



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/524,421

10/03/2005

Richard Merrick

HO-P03130US0

6269

26271 7590 07/24/2008
FULBRIGHT & JAWORSKI, LLP
1301 MCKINNEY
SUITE 5100
HOUSTON, TX 77010-3095

EXAMINER

BADR, HAMID R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

07/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,421	Applicant(s) MERRICK, RICHARD	
	Examiner HAMID R. BADR	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendments

Applicant's amendment filed on 3/4/2008 is acknowledged.

Claims 1-15 and 17-22 are being considered on the merits.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howsam (WO 00/69276; hereinafter R1) in view of Andersen et al. (US 6,277,420; hereinafter R2)

3. R1 discloses a method of manufacturing a texturized proteinaceous meat analogue by extruding protein containing raw materials such as soy bean flour, gluten and egg white and subjecting the extrudate to shredding in a hammer mill to produce extrudate shreds that resemble shredded or flaked meat (Abstract). R1 discloses that if texturized protein product (TPP) is to be used in the manufacture of pet foods it is important that it can be appropriately portioned and retain its integrity during subsequent production steps which may include freezing, co-mingling (with real meat), filling into

Art Unit: 1794

cans, thermal treatment, rehydration and/or restoring the moisture content (Page 3, lines 21-28)

4. R1 discloses subjecting a mixture containing 40-95% by weight edible proteinaceous material selected from a group of soy bean flour, soy meal, soy concentrate, vital gluten and egg white and 0.1-7% by weight of edible mineral binding and cross linking compounds (Page 4, line 30 spanning to page 5, lines 1-4, Page 6, lines 17-18).

5. R1 teaches the extrusion of the protein lava through and from a temperature controlled die which cools and reduces the viscosity of the protein lava to obtain a cohesive, texturized extrudate slab or ribbon in which vapor flashing is substantially inhibited. The solidified extrudate is further subjected to mechanical shredding in a hammer mill having a cage plate with a plurality of elongate discharge openings and a plurality of hammer bars. This process produces extrudate shreds with consistency of flaked or shredded meat such as fish meat, shredded chicken meat or shredded red meat (Page 5, lines 7-19).

6. R1 discusses the addition of real meat or meat by product to the meat analogue. This addition may take place prior to, during or after the step of subjecting the mixture to mechanical pressure and heat (Page 5, lines 20-23).

7. R1 explains that the mixture has a total moisture of 40-60%. Due to loss of moisture during the process, water may be added to compensate for the loss (Page 5, line 31 spanning to page 6 line 3).

Art Unit: 1794

8. R1 gives the quantities of the protein containing materials, binding compounds, fiber, vitamins, flavoring and coloring agents (Page 6, lines 15 to 22).

9. R1 gives a composition to produce a texturized product mimicking tuna fish (Page 6, line 30 spanning to page 7 line3).

10. R1 gives details of the hammer mill design modification to be used effectively in the invention (Page 7, lines 12-22).

11. He disclose the details of the extruder as a twin conveyor and pressurizing screw extruder with 4-8 barrel sections which are individually temperature controlled. Each section has a length to diameter ratio of approximately 4. Temperature settings at the individual barrel sections during the manufacturing process will vary between 60°C and 120°C and internal pressure between 3 and 8 MPa at screw speeds of between 200 and 350 rpm (Page 9, lines 17-23).

12. R1 is silent regarding the use of glycerin and glucose for the control of water activity in the finished product.

13. R2 discloses a composition for pet chew including a meat filling which is preserved by reduced water activity to below 0.85 as a result of incorporating salt, sugar and natural humectants (Abstract).

14. R2 teaches using sweeteners as agents to reduce the water activity of the meaty filling. They recommend using 10-40% sugars by weight for their purpose. A wide range of sugars including sucrose, dextrose (glucose), fructose, corn syrup and molasses may be used (Col. 5, lines 17-24).

Art Unit: 1794

15. R2 teaches using humectants such as glycerol, propylene glycol or sorbitol for superior products. R2 explains that these humectants further reduce the water activity as well as slow down the tendency of such a product to dry out over an extended market life of more than one year. Adding salt to about 4% will also reduce the water activity. Preservatives such as potassium sorbate, and anti-oxidants such as tocopherols may also be incorporated in the formulation (Col. 5, lines 26-35). A typical formulation is given in Example 1 which includes sugar, glycerin, salt and potassium sorbate among other ingredients (Col. 6, Example 1).

16. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the teachings of R1 by adopting and using the teachings of R2 regarding the use of glycerin and glucose to prevent drying out and reduce the water activity of a textured meat analogue. One would have done so to receive benefit of a product having reduced water activity and resisting drying out. Absent any evidence to contrary and based on the teachings of the cited references, there would have been a reasonable expectation of success to product such a product.

Response to Arguments

Applicant's arguments have been fully considered. However, the arguments are not persuasive.

1. Applicant argues that R1 is directed to a high moisture level texturized protein product (TPP) formed from non-animal protein in an extrusion cooking. Applicant further argues that the TPP of R1 includes non-animal edible proteinaceous materials, mineral binding and has a moisture content of 40-60% which results in a water activity of about 0.85 to 0.95 which is greater than water activity 0.8 as presently claimed.

Attention is drawn to the following facts:

a. However, firstly, it is noted that the moisture content of R1 does overlap that presently claimed. While the overlap is at one point i.e. 40%, the fact remains that there is overlap. Further, while applicants have pointed to the reference by Carter and Fontana as evidence to support their position that the product of R1 would necessarily possess water activity greater than 0.8, the teachings of this reference are drawn to water activity for several commercially available pet foods. It is not clear how these products relate to that of R1 or what the differences are between the products.

Therefore this reference is not persuasive in establishing that the specific pet food of R1 would necessarily inherently possess water activity greater than 0.8.

a. R1 discloses a process for making texturized protein product (TPP) where a predetermined mixture (40-95%) of soy flour, soy meal, vital gluten, soy concentrate and egg white are used in combination with 0.1-7% (w/w) of mineral binding and cross-linking compounds. Additionally R1 discloses the details of the extrusion process that produces a cohesive, texturized extrudate slab or ribbon in which vapor flashing is substantially inhibited. Please see paragraphs 3-5 above.

Art Unit: 1794

A closer look at what is presently claimed in claim 1 reveals that a mixture containing about 20-80% by weight edible proteinaceous material selected from a predetermined mixture of defatted soy flour, soy meal, soy concentrate, cereal gluten and egg white powder; up to about 5% by weight of edible mineral binding and cross-linking compounds and up to about 50% by weight of an edible humectant system consisting of a mixture of glycerol and glucose in a predetermined ratio is extruded to obtain a cohesive, texturized extrudate slab or ribbon forming the meat analogue product in which the vapor-flashing is substantially inhibited, wherein the meat analogue product has a relative water activity of lower than about 0.8.

A comparative review of what is taught by R1 and what is presently claimed in claim 1 indicates that with the exception of the humectant system and the resulting water activity of 0.8 limitations of claim 1, the process and the materials are identical. It is true that the moisture content of the product disclosed by R1 is 40-60% which may have a water activity of more than 0.8 as presently claimed.

The applicant emphasizes that the product disclosed by R1 includes edible proteinaceous materials which are substantially, if not completely, from non-animal protein sources. However, It is noted that the proteinaceous materials of claim 1 are surprisingly from non-animal protein sources and in fact the exact sources as taught by R1 together with the binding and cross-linking compounds.

2. The deficiency of R1 for controlling the water activity is remedied by R2 which discloses the effect of humectants, namely glycerol and glucose, in controlling the water activity of a pet food product. R2 also discloses the water activity below 0.85 for a

Art Unit: 1794

microbiologically stable product (Col. 7, Example 2; lines 49-50). Both references are dealing with pet foods because R1 discloses that if texturized protein product (TPP) is to be used in the manufacture of pet foods it is important that it can be appropriately portioned and retain its integrity during subsequent production steps which may include freezing, co-mingling (with real meat), filling into cans, thermal treatment, rehydration and/or restoring the moisture content (Page 3, lines 21-28). R 2 is also concerning a stable pet chew with regard to water activity. R2 teaches the role of glucose and glycerol in lowering the water activity in pet food (please see Col. 5, lines 17-35). Attention is also drawn to the fact that the water activity concept is a universal concept and can be applied to any material which may be compromised regarding the shelf life and product quality. As such it is not the subject of the presently claimed invention. As a result combining the teachings of R1 and R2 will be a matter of optimizing the process for the materials taught by R1 and R2.

3. Applicants argue that there is no basis to combine R1 with R2. However, given that R2 discloses adding glucose and glycerol to meat filling in order to preserve meat and to make such filling microbiologically stable, and given that R1 is drawn to meat product, it is the examiner's position that there is in fact motivation to combine the references.

4. Applicants point to paragraph 9 of the present specification as evidence that there would be no reasonable expectation of success when combining R1 and R2. However, this portion of the present specification only states that for the type of product disclosed in R1, common humectants would not reduce water activity. However, there is

Art Unit: 1794

no disclosure that the common humectants include glycerol or that the specific combination of glycerol and glucose as disclosed by R2 would not lower the water activity of meat products, consequently, it is the examiner's position that there is a reasonable expectation of success when combining R1 and R2.

Further, note that while R2 does not disclose all the features of the present claimed invention, R2 is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, and in combination with the primary reference, discloses the presently claimed invention.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1794

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-T 5:00 to 3:30 (Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794

Application/Control Number: 10/524,421
Art Unit: 1794

Page 11